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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,431	03/27/2002	Claude Yonnet	MEW 087-100/011018	3416

24118 7590 12/23/2003
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EXAMINER

KRISHNAMURTHY, RAMESH

ART UNIT PAPER NUMBER

3753

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,431

Applicant(s)

YONNET, CLAUDE

Examiner

Ramesh Krishnamurthy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

This office action is responsive amendment filed 09/23/2003.

Claims 1 – 15 are pending.

1. The drawings were received on 09/23/2003. These drawings are acceptable.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 8 are rejected under 35 U.S.C. 102(b) as being anticipated by FR 1,582,851.

The document FR 1,582,851 discloses (Figs. 1 and 4) a pilot valve (1) for controlling a pressure reducing valve (8), said pilot valve comprising: biasing means (2) to control a gate (attached to diaphragm S1) for controlling fluid flow through a control chamber (111); a second chamber sealed by a second chamber diaphragm (S1) into which control pressure is applicable (via ports (3)) for also controlling the operation of the gate, whereby, in use, an increase in control pressure acts to reduce fluid flow through the gate (*since an increase in the control pressure (p) moves the diaphragm (S1) and therewith the gate to decrease the flow through the gate and also as evident from equations (3) and (4) that show the ratio of a change in p i.e. dp to that of a corresponding change in P (outlet or downstream pressure) i.e. dP to be negative*); and

Wherein the side of the diaphragm (S1) against which the control pressure is not applied (i.e. the side facing the chamber (111)) is in fluid communication with the control chamber (111). Additionally, Fig. 1 shows that the pressure at the outlet is substantially

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equal to the outlet of the pressure-reducing valve (8) being controlled by the pilot valve (1).

Regarding claim 2, it is noted that the biasing means (2) is biased to open the gate. As seen clearly from Figs. 1 and 4, spring (2) exerts a restoring force upward that acts (via the mechanical linkage shown schematically in Fig. 4) on the diaphragm (S1) to move the gate therewith (since diaphragm (S1) is rigidly attached to the gate) to an open position.

Regarding claims 3 and 4, it is noted that the biasing means (2) is rigidly connected (see Figs. 1 and 4) to the diaphragm (S1) and therewith to the gate.

Regarding claims 5 and 6, it is noted that biasing means (2) is indeed a helical spring.

Regarding claims 7 and 8, it is noted that a control chamber diaphragm (S2) is provided such that the biasing means (2) is located on the opposite side of the control chamber diaphragm (S2) to said control chamber (111).

It is further noted that the recitation of "water" in claim 1 is reflective of intended use and is not given any patentable weight in this office action.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over FR 1,582,851.

The document FR 1,582,851 discloses the claimed invention with the exception of explicitly disclosing the ratio of the area of the control chamber diaphragm to the second chamber diaphragm to be 2:1 or less.

However, it is noted that the ratio of the area of said control chamber diaphragm (S2) to said second chamber diaphragm (S1) is variable since as recited in claim 4 of FR 1,582,851, S1 (or equivalently S1') is modifiable to correspond to a desired value of the coefficient multiplier k and therefore the set of all such desired values is taken here to include a ratio of S2 to S1 that would be 2:1 or less.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have chosen the ratio of the area of the control chamber diaphragm to the second chamber diaphragm to be 2:1 or less since such a value merely results in a particular value for the coefficient multiplier k which in turn denotes the sensitivity of the downstream pressure (P) to the changes in the control pressure (p) as represented in equations (1) – (5) on pages 3 and 4 of FR 1,582,851. Thus the sensitivity or multiplier effect desired guides the choice of k and therefore the corresponding value of the ratio of the area of the control chamber diaphragm to the second chamber diaphragm.

6. Claims 10 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR 1,582,851 as applied to claims 1 - 8 above, and further in view of either Bradshaw (US 4,267,855) or Konieczynski (US 5,016,665) or Eidsmore (US 5,694,975).

The document FR 1,582,851 discloses the claimed invention including the pilot valve controlling a pressure-reducing valve, with the exception of explicitly disclosing

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the control pressure source for the pilot valve to be different from the outlet pressure of the pressure-reducing valve being controlled.

Bradshaw discloses a pilot controlled pressure regulator wherein the source of control pressure (via (60)) is disclosed (Col. 4, lines 36 – 39) to be different from the outlet pressure of the valve (92) in the outlet port (42). To one of ordinary skill in the art availability of such an independent source of control pressure suggests the potential for utilizing greater flexibility in the range of control pressures to be applied.

Konieczynski discloses a flow control arrangement for controlling the pressure of a liquid wherein the source of control pressure (34,36,42) is different from the outlet pressure of the valve (26). To one of ordinary skill in the art availability of such an independent source of control pressure suggests the potential for utilizing greater flexibility in the range of control pressures to be applied.

Eidsmore discloses a flow control arrangement for controlling the pressure of a fluid wherein the source of control pressure (160,170) is different from the outlet pressure of the valve (60'). To one of ordinary skill in the art availability of such an independent source of control pressure suggests the potential for utilizing greater flexibility in the range of control pressures to be applied.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the source of control pressure in the pilot valve of the device disclosed (Figs. 1 and 4) of FR 1,582,851 with an independent source of control pressure for the purpose of utilizing the greater flexibility in the range of control

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pressures to be applied, as recognized by either Bradshaw or Konieczynski or Eidsmore.

It is further noted that the recitation of "water" in claims 10 - 15 is reflective of intended use and is not given any patentable weight in this office action.

The various additional limitations set forth in claims 10 - 15 represent various combinations of independent claim 1 with the dependent claims 2 - 9 whose individual rejections have been set forth above.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Response to Arguments

8. Applicant's arguments with respect to claims 1 - 15 have been considered but are moot in view of the new ground(s) of rejection.

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For the record, it is noted that claim 1 as presented does not recite the limitation pertaining to the control pressure being different from the outlet pressure of the pressure-reducing valve being controlled. Inclusion of such a limitation would merely result in the obviousness rejection applied against claims 10 – 15. As for the throttle (21) it is noted that it is not a part of the embodiment shown in Fig. 1. Additionally the embodiment shown in Fig. 1 discloses the pilot valve (1) to be controlling the main valve (8).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (703) 305 - 5295. The examiner can normally be reached on Monday - Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Scherbel, can be reached on (703) 308 - 1272. The fax phone number for the organization where this application or proceeding is assigned is (703) 872 - 9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 - 0861.



Ramesh Krishnamurthy
Examiner
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